Appl. No.: 10/024,962

Amdt. dated December 17, 2004

Response to Notice of Allowance September 22, 2004

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- 1. (canceled)
- 2. (canceled)
- 3. (canceled)
- 4. (canceled)
- 5. (canceled)
- 6. (canceled)
- 7. (canceled)
- 8. (canceled)
- 9. (canceled)
- 10. (canceled)
- 11. (canceled)
- 12. (canceled)
- 13. (canceled)
- 14. (canceled)
- 15. (canceled)
- 16. (canceled)

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17. (previously presented) A method of manufacturing a magnetic head in which a workpiece having a plurality of magnetic heads is lapped on a lapping plate, the method comprising:

attaching firmly a workpiece holding device for installing said workpiece to an angle adjustment mechanism and attaching firmly a reciprocating motion drive unit mounting said angle adjustment mechanism to a bridge provided so as to stride said lapping plate, to enhance rigidity between a surface of said workpiece to be lapped and a surface of said lapping plate; and

during the time when the surface of said workpiece to be lapped is lapped by using at least the reciprocating motion of said workpiece or the rotating motion of said lapping plate, keeping substantially constant an angle between the surface of said workpiece and the surface of said lapping plate in said angle adjustment mechanism so as to lap said workpiece.

18. (previously presented) A method of manufacturing a magnetic head in which a workpiece having a plurality of magnetic heads is lapped on a lapping plate, the method comprising:

attaching firmly a workpiece holding device for installing said workpiece to an angle adjustment mechanism and attaching firmly a reciprocating motion drive unit mounting said angle adjustment mechanism to a bridge provided so as to stride said lapping plate, to enhance rigidity between a surface of said workpiece to be lapped and a surface of said lapping plate; and

during the time when the surface of said workpiece to be lapped is lapped by using at least the reciprocating motion of said workpiece or the rotating motion of said lapping plate, keeping substantially parallel the surface of said workpiece and the surface of said lapping plate in said angle adjustment mechanism with each other.

19. (original) The method of manufacturing a magnetic head according to claim 17, wherein said workpiece to be lapped is lapped by using fixed abrasives such that a part of abrasive is embedded in said lapping plate and remaining portion thereof is exposed on said lapping plate.

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20. (original) The method of manufacturing a magnetic head according to claim 18, wherein said workpiece to be lapped is lapped by using fixed abrasives such that a part of abrasive is embedded in said lapping plate and remaining portion thereof is exposed on said lapping plate.

- 21. (canceled)
- 22. (canceled)
- 23. (previously presented) The method of manufacturing a magnetic head according to claim 17, wherein said method further comprises a process of lapping in which said workpiece to be lapped is lapped by using reciprocating motion of said workpiece while the rotational rate of said lapping plate is decreased to a predetermined range.
- 24. (previously presented) The method of manufacturing a magnetic head according to claim 18, wherein said method further comprises a process of lapping in which said workpiece to be lapped is lapped by using reciprocating motion of said workpiece while the rotational rate of said lapping plate is decreased to a predetermined range.
- 25. (currently amended) [[The]] A method of manufacturing a magnetic head in which a workpiece having a plurality of magnetic [[head sis]] heads is lapped on a lapping plate, the method comprising a process of lapping in which the surface of said workpiece to be lapped is lapped by using at least the reciprocating motion of said workpiece or the rotating motion of said lapping plate,

wherein when said workpiece is brought close to and in contact with the surface of said lapping plate, said lapping plate is rotated and said workpiece is reciprocated prior to lapping operation, subsequently lapping operation being performed by the sliding motion of said workpiece on said lapping surface plate by bringing said workpiece into contact with said lapping plate, and at the time when lapping operation is finished, said workpiece is separated from said lapping plate while the reciprocating motion of said workpiece is maintained.

26. (currently amended) [[The]] A method of manufacturing a magnetic head in which a workpiece having a plurality of magnetic [[head sis]] heads is lapped on a

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lapping plate, the method comprising a process of lapping in which the surface of said workpiece to be lapped is lapped by using at least the reciprocating motion of said workpiece or the rotating motion of said lapping plate,

wherein during the time when said process of lapping is being performed, said workpiece is lapped while the surface of said workpiece and the surface of said lapping plate are kept substantially parallel with each other, and

wherein when said workpiece to be lapped is brought close to and in contact with the surface of said lapping plate, said lapping plate is rotated and said workpiece is reciprocated prior to lapping operation, subsequently lapping operation being performed by the sliding motion of said workpiece on said lapping plate by bringing said workpiece into contact with said lapping plate, and at the time when lapping operation is finished, said workpiece is separated from said lapping surface plate while the reciprocating motion of said workpiece is maintained.

27. (previously presented) A method of manufacturing a magnetic head in which a workpiece having a plurality of magnetic heads is lapped on a lapping plate, comprising a process of lapping in which the surface of said workpiece to be lapped is lapped by using at least the reciprocating motion of said workpiece or the rotating motion of said lapping plate,

wherein during the time when said process of lapping is being performed, said workpiece is lapped while an angle between the surface of said workpiece and the surface of said lapping plate is kept substantially constant, and

wherein when said workpiece is brought close to and in contact with the surface of said lapping plate, said lapping plate is not rotated and said workpiece is reciprocated prior to lapping operation, subsequently lapping operation being performed by the sliding motion of said workpiece on said lapping surface plate by bringing said workpiece into contact with said lapping plate, and at the time when lapping operation is finished, said workpiece is separated from said lapping plate while the reciprocating motion of said workpiece is maintained.

28. (previously presented) A method of manufacturing a magnetic head in which a workpiece having a plurality of magnetic heads is lapped on a lapping plate,

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comprising a process of lapping in which the surface of said workpiece to be lapped is lapped by using at least the reciprocating motion of said workpiece or the rotating motion of said lapping plate,

wherein during the time when said process of lapping is being performed, said workpiece is lapped while the surface of said workpiece and the surface of said lapping plate are kept substantially parallel with each other, and

wherein when said workpiece to be lapped is brought close to and in contact with the surface of said lapping plate, said lapping plate is not rotated and said workpiece is reciprocated prior to lapping operation, subsequently lapping operation being performed by the sliding motion of said workpiece on said lapping plate by bringing said workpiece into contact with said lapping plate, and at the time when lapping operation is finished, said workpiece is separated from said lapping surface plate while the reciprocating motion of said workpiece is maintained.

- 29. (previously presented) The method of manufacturing a magnetic head according to claim 17, wherein said rigidity is not less than $0.2 \text{ N/}\mu\text{m}$.
- 30. (previously presented) The method of manufacturing a magnetic head according to claim 18, wherein said rigidity is not less than $0.2 \text{ N/}\mu\text{m}$.
- 31. (previously presented) The method of manufacturing a magnetic head according to claim 17, said method additionally comprises a process of lapping in which said workpiece to be lapped is lapped by using reciprocating motion of said workpiece while the rotational rate of said lapping plate is decreased to zero.
- 32. (previously presented) The method of manufacturing a magnetic head according to claim 18, said method additionally comprises a process of lapping in which said workpiece to be lapped is lapped by using reciprocating motion of said workpiece while the rotational rate of said lapping plate is decreased to zero.